Preliminary DRAFT North Lake Washington Chinook Population - Tier I - Initial Habitat Project List

Includes Potential Restoration and Protection Projects by Reach.

Cottage Lake Reaches 1-6 & Cold Creeks Reaches 1-2

Ranking Notes:

- LWD Feasibility determined by ownership (H for public and M/L for private)
- Many non-specific restoration and protection projects received H Benefit Rankings and M/L feasibility until specific projects are identified.

NOTE: It may be valuable to prioritize protection projects in Cottage/Cold Creeks over those in Bear given the highly productive nature of this system

Reach 1: Cottage Creek from mouth to Avondale Way crossing

Restoration

Technical Hypothesis: *Reduce fine sediment inputs, add LWD, restore riparian conditions, reduce channel confinement.*

Project #	Reach #	Reach Restoration Benefit	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N280	1	3 of 4	3	**Add Large Woody Debris** to Cottage Lake Creek as opportunities arise in this reach.			**H**	**M/L**
N281	1	3 of 4	new	**Continue to work with private property owners** in reach to restore riparian areas, increase in-channel complexity and add LWD. Use King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects report to identify specific potential projects.		In King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects habitat problems were identified, prioritized and solutions identified. Report covers LWD, in-channel restoration as well as riparian restoration. Information is still relevant and identified projects that have not yet been done should be pursued.	**H**	**M/L**
N282	1	3 of 4	new	**Explore opportunities to improve floodplain connection** in reach by removing riprap or artificial constrictions.			**H**	**M/L**
N283	1	3 of 4	new	**Work with private property owners** in reach to reduce water quality impacts of their landscaping practices.			**M**	**M**

Protection

Technical Hypothesis: *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning areas.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N284	1	3 of 5		7	**Forest Cover Protection** - Acquire forest property, development rights/conservation easements, and provide enhanced incentives to retain and plant forest area environments.			**H**	**M/L**
N285	1	3 of 5		8e	**Protect riparian forested buffers** along Cottage Lake Creek.			**H**	**M/L**
N286	1	3 of 5	Y	8c	**Continue Bear Creek Waterways** program to protect best remaining habitat. This reach is part of Waterways "Reach E."			**H**	**M/L**
N287	1	3 of 5		new	**Protect instream flows in reach**. Begin by identifying legal and illegal water withdrawals.		Several strategies could be used to deal with illegal water withdrawals. Education, incentives and enforcement could all be used to achieve goals. Instream flows are critical in Cottage/Cold Creeks because flows are so low.	**H**	**L**

Reach 2: Cottage Creek from Avondale Way to beginning of good quality habitat

Restoration

Technical Hypothesis: *Reduce fine sediment inputs, add LWD, restore riparian conditions, reduce channel confinement.*

Project #	Reach #	Reach Restoration Benefit	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N288	2	4 of 4	3	**Add Large Woody Debris** to Cottage Lake Creek as opportunities arise in this reach.			**H**	**M/L**
N289	2	4 of 4	new	**Restore riparian conditions** along Cottage Lake Creek on Nickels Farm. Reduce fine sediment inputs from equestrian area.			**H**	**M/L**
N290	2	4 of 4	new	**Continue to work with private property owners** in reach to restore riparian areas, increase in-channel complexity and add LWD. Use King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects report to identify specific potential projects.		In King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects habitat problems were identified, prioritized and solutions identified. Report covers LWD, in-channel restoration as well as riparian restoration. Information is still relevant and identified projects that have not yet been done should be pursued.	**H**	**M**
N291	2	4 of 4	new	**Work with private property owners** in reach to reduce water quality impacts of their landscaping practices.			**M**	**M**

Protection

Technical Hypothesis: *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning areas.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N292	2	2 of 5		7	**Forest Cover Protection** - Acquire forest property, development rights/conservation easements, and provide enhanced incentives to retain and plant forest area environments.			**H**	**M/L**
N293	2	2 of 5		8a	**Protect 40-acre parcel** on Cottage Lake Creek (Nickels Farm).			**H**	**M/L**
N294	2	2 of 5	Y	8c	**Continue Bear Creek Waterways** program to protect best remaining habitat. This reach is part of Waterways "Reach E."			**H**	**M/L**
N295	2	2 of 5		8e	**Protect riparian forested buffers** along Cottage Lake Creek.			**H**	**M/L**
N296	2	2 of 5		new	**Protect instream flows in reach**. Begin by identifying legal and illegal water withdrawals.		Several strategies could be used to deal with illegal water withdrawals. Education, incentives and enforcement could all be used to achieve goals. Instream flows are critical in Cottage/Cold Creeks because flows are so low.	**H**	**L**

Reach 3: Cottage Creek from beginning of good quality habitat to 2nd Avondale Way crossing

Restoration

Technical Hypothesis: *Reduce fine sediment inputs, add LWD, restore riparian conditions.*

Project #	Reach #	Reach Restoration Benefit	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N297	3	2 of 4	3	**Add Large Woody Debris** to Cottage Lake Creek as opportunities arise in this reach. There are a few wide spots through Cross Roads development where LWD could be added.		LWD not as important here. Not much opportunity for channel movement in this reach.	**M**	**L**
N298	3	2 of 4	new	**Work with private property owners** upstream of Native Growth Protection Easements in reach to restore riparian buffers.		Invasives (nightshade) are a problem in this reach.	**H**	**M/L**
N299	3	2 of 4	new	**Explore opportunities to reforest cleared properties** in reach, particularly in open space tracts.			**M**	**M**

N300	3	2 of 4	new	**Continue to work with private property owners** in reach to restore riparian areas, increase in-channel complexity and add LWD. Use King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects report to identify specific potential projects.		In King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects habitat problems were identified, prioritized and solutions identified. Report covers LWD, in-channel restoration as well as riparian restoration. Information is still relevant and identified projects that have not yet been done should be pursued.	**H**	**M/L**
N301	3	2 of 4	new	**Work with private property owners** in reach to reduce water quality impacts of their landscaping practices.			**M**	**M**

Protection

Technical Hypothesis: *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning and spawning areas.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N302	3	1 of 5		7	**Forest Cover Protection** - Acquire forest property, development rights/conservation easements, and provide enhanced incentives to retain and plant forest area environments.			**H**	**M/L**
N303	3	1 of 5	Y	8c	**Continue Bear Creek Waterways** program to protect best remaining habitat. This reach is part of Waterways "Reach E."			**H**	**M/L**
N304	3	1 of 5		8e	**Protect riparian forested buffers** along Cottage Lake Creek. In particular, stop encroachment into riparian buffers that are part of Native Growth Protection Easements in reach.			**H**	**M**
N305	3	1 of 5		new	**Protect instream flows in reach**. Begin by identifying legal and illegal water withdrawals.		Explore whether or not withdrawals at nursery site in reach is a problem. Several strategies could be used to deal with illegal water withdrawals. Education, incentives and enforcement could all be used to achieve goals. Instream flows are critical in Cottage because flows are so low.	**H**	**L**

Reach 4: Cottage Creek from 2nd Avondale Way crossing to begin wetland below lake

Restoration

Technical Hypothesis: *Reduce fine sediment inputs, add LWD, restore riparian conditions.*

Project #	Reach #	Reach Restoration Benefit	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N306	4	1 of 4	3	**Add Large Woody Debris** to Cottage Lake Creek as opportunities arise in this reach.		Opportunities are limited in this reach - lots of houses close to the creek. Not much wood present.	**M**	**L**
N307	4	1 of 4	new	**Continue to work with private property owners** in reach to restore riparian areas, increase in-channel complexity and add LWD. Use King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects report to identify specific potential projects.		In King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects habitat problems were identified, prioritized and solutions identified. Report covers LWD, in-channel restoration as well as riparian restoration. Information is still relevant and identified projects that have not yet been done should be pursued. Look for and remove invasive nightshade.	**H**	**M/L**
N308	4	1 of 4	new	**Work with private property owners** in reach to reduce water quality impacts of their landscaping practices.			**M**	**M**

Protection

Technical Hypothesis: *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning areas.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N309	4	3 of 5		7	**Forest Cover Protection** - Acquire forest property, development rights/conservation easements, and provide enhanced incentives to retain and plant forest area environments.			**H**	**M/L**
N310	4	3 of 5		8b	**Protect Cold Creek Headwaters/Recharge Area.**		There are three springs near this reach.	**H**	**H**
N311	4	3 of 5	Y	8c	**Continue Bear Creek Waterways** program to protect best remaining habitat. This reach is part of Waterways "Reach C."			**H**	**M/L**
N312	4	3 of 5		8e	**Protect riparian forested buffers** along Cottage Lake Creek.			**H**	**M/L**
N313	4	3 of 5		new	**Protect instream flows in reach**. Begin by identifying legal and illegal water withdrawals.		Several strategies could be used to deal with illegal water withdrawals. Education, incentives and enforcement could all be used to achieve goals. Instream flows are critical in Cottage/Cold Creeks because flows are so low.	**H**	**L**

Reach 5 & 6:

Restoration

Technical Hypothesis: *Reduce fine sediment inputs, add LWD, restore riparian conditions.*

Project #	Reach #	Reach Restoration Benefit	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N314	5,6	5 of 6	3	**Add Large Woody Debris** to Cottage Lake Creek, particularly in areas that are already publicly owned.			**H**	**H**
N315	5,6	5 of 6	new	Portion of **Cold Creek Natural Area** is an altered bog in need of restoration.		Will need to study restoration needs of bog. Possibly fill cross channels and ditches in bog. Remove spirea.	**M**	**H**
N316	5,6	5 of 6	new	**Continue to work with private property owners** in reach to restore riparian areas, increase in-channel complexity and add LWD. Use King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects report to identify specific potential projects.		In King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects habitat problems were identified, prioritized and solutions identified. Report covers LWD, in-channel restoration as well as riparian restoration. Information is still relevant and identified projects that have not yet been done should be pursued.	**H**	**M/L**
N317	5,6	5 of 6	new	**Work with private property owners** in reach to reduce water quality impacts of their landscaping practices.			**M**	**M**

Protection

Technical Hypothesis: *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning areas.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N318	5,6	3 of 5		7	**Forest Cover Protection** - Acquire forest property, development rights/conservation easements, and provide enhanced incentives to retain and plant forest area environments.			**H**	**M/L**
N319	5,6	3 of 5		8b	**Protect Cold Creek Headwaters/Recharge Area.**		There are three springs near reach.	**H**	**H**
N320	5,6	3 of 5	Y	8c	**Continue Bear Creek Waterways** program to protect best remaining habitat. This reach is part of Waterways "Reach C."			**H**	**M/L**
N321	5,6	3 of 5		8e	**Protect riparian forested buffers** along Cottage Lake Creek.			**H**	**M/L**

N322	5,6	3 of 5		new	**Protect instream flows in reach**. Begin by identifying legal and illegal water withdrawals.		Several strategies could be used to deal with illegal water withdrawals. Education, incentives and enforcement could all be used to achieve goals. Instream flows are critical in Cottage/Cold Creeks because flows are so low.	**H**	**L**

Cold Creek Reach 1-2:

Restoration

Technical Hypothesis: *Reduce fine sediment inputs, add LWD, restore riparian conditions.*

Project #	Reach #	Reach Restoration Benefit	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N323	1,2		new	**Portion of Cold Creek Natural Area** is an altered bog in need of restoration.		Will need to study restoration needs of bog. Possibly fill cross channels and ditches in bog. Remove spirea.	**M**	**H**
N324	1,2		new	**Continue to work with private property owners** in reach to restore riparian areas, increase in-channel complexity and add LWD. Use King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects report to identify specific potential projects.		In King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects habitat problems were identified, prioritized and solutions identified. Report covers LWD, in-channel restoration as well as riparian restoration. Information is still relevant and identified projects that have not yet been done should be pursued.	**H**	**M/L**
N325	1,2		new	**Work with private property owners** in reach to reduce water quality impacts of their landscaping practices.			**M**	**M**

Protection

Technical Hypothesis: *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning areas. Protect cold water temperatures by protecting headwaters and sources of groundwater.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M. L	Feasib. H, M, L
N326	1,2			6	**Cold Creek Protection** - Determine the source of and properly protect the aquifer for the Cold Creek groundwater springs in Cottage Lake Creek. (Note: groundwater flows from incorporated Woodinville and possibly parts of Little Bear subarea and Lake Leota.)			**H**	**M**
N327	1,2			7	**Forest Cover Protection** - Acquire forest property, development rights/conservation easements, and provide enhanced incentives to retain and plant forest area environments.			**H**	**M/L**
N328	1,2			8b	**Protect Cold Creek Headwaters/Recharge Area.**			**H**	**H**

N329	1,2		Y	8c	**Continue Bear Creek Waterways** program to protect best remaining habitat. This reach is part of Waterways "Reach C." In particular, large forested parcels south of NE Woodinville Road.			**H**	**M/L**
N330	1,2			8e	**Protect riparian forested buffers** along Cold Creek.			**H**	**M/L**
N331	1,2			new	**Protect instream flows in reach**. Begin by identifying legal and illegal water withdrawals.		Several strategies could be used to deal with illegal water withdrawals. Education, incentives and enforcement could all be used to achieve goals. Instream flows are critical in Cottage/Cold Creeks because flows are so low.	**H**	**L**